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TITLE : METHOD FOR GROWING CRYSTAL

ABSTRACT : PURPOSE: To lower the treating temp. of a substrate and to maintain the quality of this substrate by irradiating the substrate with gaseous raw material molecules to adsorb the gaseous raw material molecules on the substrate and to cause satd. inactivation, then removing the hydrogen atoms on the substrate and activating the substrate surface.

CONSTITUTION: Crystal growth is executed by depositing the atoms on the substrate surface by a stage for irradiating the substrate with the gaseous raw material molecules to adsorb the molecules thereon and to cause satd. inactivation and a surface excitation stage for activating the substrate surface by removing the hydrogen atoms on the substrate. The surface excitation stage includes, for example, irradiation of the substrate surface with electron beams or light or irradiation of the substrate surface with high-velocity particles. Impartation of energy to the surface not by heating is possible in the surface excitation stage, for example, electron beam irradiation method of the above method and, therefore, surface reforming and reactivating at a low temp. are possible. A heat treatment is not involved in the reactivating stage and, therefore, the quality, such as crystallinity and impurity distribution of the substrate, is not affected.

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